	<p style="text-align: center;">Public Service Advisory American Planning Association Planning for Urban & Community Forestry</p> <p style="text-align: center;"><i>Community Protection & Well-Being</i> <i>Flagstaff AZ</i></p>
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What Public Policy Goals does this case study serve?

Flagstaff is ranked as Arizona's #1 At-Risk (wildfire) community. The area averages roughly 400 ignitions per year, spilt between lightning and human-caused. With a brisk wind, low humidity, and high temperature, any single fire, or a combination of fires, could rapidly overwhelm response agencies.

As evidenced in other affected communities, destructive wildfire can disrupt or damage wildlife habitat, recreational opportunities, watershed and scenic values, spiritual or emotional beliefs, ecosystem health, property and other improvements, threaten public safety, and induce panic. Protecting the community from these affects is a priority of government.

Flagstaff, located in north-central Arizona, is the largest metropolitan community in northern Arizona. Sitting at 7,000 feet elevation on the south-flank of the San Francisco Peaks, the community resides in the midst of a dense ponderosa pine forest. The forests offer a cool respite from the nearby desert heat, and are an important factor to those living in and visiting the area. Promoting and maintaining this green, sustainable environment is of key importance to city leadership.



The San Francisco Peaks form a dramatic backdrop to the community.

What problems or external stimuli are driving the program?

Low-intensity wildfire is both natural and necessary for southwestern ponderosa pine forests. Such fires reduce fuel accumulations, recycle nutrients, and invigorate grasses, forbs, and flowers. Prior to settlement in the 1870's, such fires burned frequently – every 2-5 years on average – and evidence suggests that trees occupied only 5-10 percent of the overall area with an average density of 30-50 trees per acre.

Today, our forests are heavily overcrowded: trees now occupy in excess of 95 percent of the area with a common density of 500+ trees per acre. Persistent drought, on-going insect outbreaks, and an expanding population living in-and-adjacent to wildland areas exacerbates the issue.

Nationally, there has been a disturbing escalation in historically-uncharacteristic dangerous, destructive, and costly wildfires during the past few decades. The 1996 wildland fire season saw numerous large-and-destructive wildfires both adjacent to and within the city, effectively shattering the illusion that a “green” forest was a “healthy” forest, or that what existed now was-and-always-would-be the same.



The Woody Fire burned within the community in June 2006, dramatically demonstrating Values at-Risk from such destructive wildfires.

One key motivation to addressing this issue is economic: a study completed in 2003 by Flagstaff Fire Dept (FFD) and other community organizations shows that a single large fire that damaged or destroyed 300 homes would have a first-year negative economic cost in excess of \$60 million dollars.

Is this a holistic approach or a single-purpose approach?

The Federal Emergency Management Agency (FEMA) defines “hazard” as a source of danger, and “risk” as a possibility of loss or injury. Traditional Prevention-oriented programs employ the standard “Three-E” approach: Education, Engineering, and Enforcement. However, because wildfires occur in a growing and continually-changing natural environment, the addition of a 4th “E” – Ecosystem – is required.

<u>Education</u>	<u>Engineering</u>
<i>Public Preparedness</i>	<i>Strategic Planning & Response</i>
<u>Enforcement</u>	<u>Ecosystem</u>
<i>Land Use Planning</i>	<i>Hazard Mitigation</i>

Our approach focuses on five core areas:

- Public Preparedness: *Motivate and assist individuals to prepare themselves, their families, homes, properties, and neighborhoods to survive wildfire.*
- Strategic Development: *Shape direction of program to meet overall mission, while engaging with partners.*
- Response: *Develop and sustain capacity to deliver effective, efficient, and safe community protection, and provide assistance to partners at every level.*
- Land Use Planning: *Create and maintain FireWise neighborhoods.*
- Hazard Mitigation: *Manage wildland fuel regimes (condition, amount, type, and location) to reduce likelihood of destructive wildfire and create sustainable forests.*

Is this program part of a comprehensive approach?

During the past decade, both the city and Coconino County have worked together on numerous plans to improve quality-of-life in the greater Flagstaff area. They include, among others, *Open Space and Greenways*, *Regional Land Use and Transportation*, *Growth Management*, *Flagstaff 2020*, *Multi-Hazard Mitigation*, and the *Emergency Operations*.

While each recognizes the current state of our natural environment and speaks to public safety, recreation, watershed protection, and economic vitality, none are specific to community wildfire protection and forest health and sustainability. Like many issues which transcend ownerships and jurisdictional boundaries, a collaborative partnership approach is a must. The city is actively and successfully engaged in three such efforts:

- 1) Greater Flagstaff Forests Partnership (GFFP) – represents environmental, business, and land/resource management agencies whose three-fold purpose is to:
 - Restore the ponderosa pine ecosystem,
 - Protect communities from wildfire, and
 - Test and demonstrate key ecological, economic, and social aspects of forest restoration.

GFFP, along with the Ponderosa Fire Advisory Council (an area emergency agency coordination group), co-authored the Greater Flagstaff “*Community Wildfire Protection Plan*” (CWPP). The plan encompasses nearly 900,000 acres, and seeks to promote:

- An educated and involved public,
- Implementation of forest treatment projects designed to reduce wildfire threat and improve long-term forest health, and
- Utilization of FireWise building techniques and materials.

Development of the CWPP was authorized by passage of *The Healthy Forests Restoration Act* (HFRA) by Congress in November 2003 and subsequently signed into law by President Bush. The plan encourages collaboration on both public-and-private lands by identifying local protection priorities, mitigation practices, and other needed actions.

- 2) Northern Arizona University *Centennial Forest* – joint effort between the Arizona State Land Department and the university’s School of Forestry to manage 50,000 acres of state forest land southwest of our community. As any large fire in this area will likely move into the community, the city is an active member of the Advisory Board, and was involved in the development of the overall land-management plan and annual operating plans for the site.
- 3) Arizona Forest Health Council – Begun in 2003 by Governor Napolitano, the Council culminated its effort with the completion of the *Statewide Strategy for Restoring Arizona’s Forests* which was adopted by the Governor in 2007. The city was an active member of the Council and assisted with the development of this plan.

What codes help implement the program?

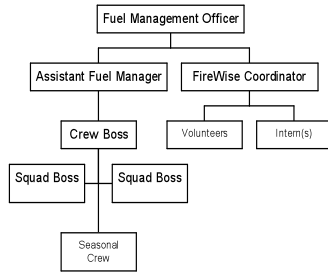
The city has adopted the Uniform Fire Code and FFD has both enforced it and added various Supplementary Regulations. In the early 1990’s, the city developed a Land-Development Code (LDC), a portion of which is geared toward resource protection, including tree preservation and landscape requirements.

As wildfire and forest health awareness grew, the earlier community paradigm of “saving every tree” began to change. FFD and the city’s Community Development Dept worked cooperatively to develop an administrative solution to the need to aggressively manage our forests while preserving the natural character of our community. Flagstaff was the first community in Arizona to require selective tree removal and debris disposal, as well as incorporation of FireWise construction materials and techniques, throughout all new developments: the concept is now overwhelmingly embraced by the development community.

When did the program begin and what agency is responsible?

Begun in late 1996, the program remains a branch of FFD’s Prevention Bureau. Originally a single-person effort, the program now has six permanent full-time (PFT) staff, augmented by a year-round seasonal crew (eight in summer, three in winter). Volunteers and student interns round-out the organization.

FFD Fuel Management Division



Four PFT's have BS degrees (or higher) in natural resource management fields, and all staff possess other professional qualifications and certifications (ex: Arborist, National Wildfire Coordinating Group Fire Management positions, Emergency Medical Technician, etc).

What are the innovative features?

Hazard mitigation treatments are highly visible to community members, encouraging interaction and participation. Projects are planned and implemented in a partnership environment, provide job experience and career opportunities for crew members, and foster promising biomass and wood utilization efforts.



Selective tree thinning is focused on small-diameter trees.

Thinning dense stands of trees – focusing on small-diameter material – does more than reduce the risk of devastating wildfire and improve forest health. It also increases residential property values. A recent study in the area documented that market value increased an average of \$200 or more for each $\frac{1}{4}$ acre of thinned land surrounding a home or property.



Prescribed fire is an important aspect of the effort.

Use of prescribed fire immediately adjacent to structures and improvements is commonplace. It is an important component of debris disposal and mimics the natural role of fire and its positive impact on forest health.

How is the program funded?

During the early, formative years, the effort was relatively small (\leq \$100,000 per year) and funded largely by various state-and-federal grants. Over time, the program has grown – both in staffing and services offered – and funding sources have shifted. Today, funding has stabilized (\pm \$500,000 per year) and is approximately 80 percent city General Fund and 20 percent grants, contracts, and donations. The entire effort will be city General Fund monies by FY 2009.

Additional Information?

- FFD Fuel Management – www.flagstaff.az.gov/fuelmanagement
- Community Wildfire Protection Plan – www.gffp.org/PDF_Pages/CWPP_Report.htm
- NAU Centennial Forest Plan – www.for.nau.edu/CentennialForest
- AZ Statewide Strategic Plan – www.governor.state.az.us/FHC/
- Multi-Hazard Mitigation Plan – www.flagstaff.az.gov/common/modules/documentcenter2/documentview.asp?DID=1078
- Emergency Operations Plan – www.flagstaff.az.gov/common/modules/documentcenter2/documentview.asp?DID=1609